

In re Patent Application of:

GRANT

Serial No. 10/781,977

Filing Date: FEBRUARY 19, 2004

In the Claims:

This listing of claims replaces all prior versions and listing of claims in the application.

Claims 1-16 (Cancelled).

17. (Currently amended) A semiconductor image sensor comprising:

at least one pixel comprising a photosensing portion and a silicide formation prevention coating thereon, said silicide formation prevention coating having a thickness to operate as an anti-reflective surface at a desired wavelength range ~~so that the coating performs dual functions.~~

18. (Previously Presented) A semiconductor image sensor according to Claim 17, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially blue light.

19. (Previously Presented) A semiconductor image sensor according to Claim 17, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially 450nm.

20. (Previously Presented) A semiconductor image sensor according to Claim 17, wherein the silicide formation

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prevention coating comprises a layer of silicon nitride and a layer of silicon dioxide adjacent thereto.

21. (Previously Presented) A semiconductor image sensor according to Claim 20, wherein the layer of silicon nitride is substantially 300Å thick and the layer of silicon dioxide is substantially 250Å thick.

22. (Previously Presented) A semiconductor image sensor according to Claim 17, wherein the photosensing portion comprises a photo-diode.

23. (Previously presented) A semiconductor image sensor according to Claim 22, wherein the photo-diode comprises a pinned photo-diode.

24. (Previously presented) A semiconductor image sensor according to Claim 22, wherein the photo-diode comprises a partially pinned photo-diode.

Claims 25-28 (Canceled).

29. (Currently amended) A method for making a semiconductor image sensor comprising:

forming at least one pixel having a photosensing portion; and

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forming a silicide formation prevention coating on the photosensing portion, said silicide formation prevention coating comprising a layer of silicon dioxide and a layer of silicon nitride adjacent thereto, said silicon dioxide and silicon nitride layers having thicknesses such that the silicide formation prevention coating has having a thickness to operate as an anti-reflective surface at a desired wavelength range so that the coating performs dual functions; and,

forming, subsequent to formation of the silicide formation prevention coating, silicide on the surface of the pixel, the silicide formation prevention coating acting to prevent silicide formation on the photosensing portion.

30. (Previously Presented) A method according to Claim 29, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially blue light.

31. (Previously Presented) A method according to Claim 29, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially 450nm.

32. (Cancelled).

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33. (Previously Presented) A method according to Claim 32, wherein the layer of silicon nitride is substantially 300Å thick and the layer of silicon dioxide is substantially 250Å thick.

34. (Previously Presented) A method according to Claim 29, wherein forming the silicide formation prevention coating comprises a self-aligning technique.

35. (Previously Presented) A method according to Claim 29, wherein the photosensing portion comprises a photo-diode.

36. (Previously Presented) A method according to Claim 35, wherein the photo-diode comprises a pinned photo-diode.

37. (Previously Presented) A method according to claim 35, wherein the photo-diode comprises a partially pinned photo-diode.

38. (New) A partially formed semiconductor image sensor comprising:

at least one pixel comprising a photosensing portion and a silicide formation prevention coating thereon, said

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silicide formation prevention coating comprising a layer of silicon dioxide and a layer of silicon nitride adjacent thereto;

said silicon dioxide and silicon nitride layers having thicknesses such that the silicide formation prevention coating has a thickness to operate as an anti-reflective surface at a desired wavelength range;

an entire surface of each pixel of the partially formed image sensor being free of silicide.

39. (New) A partially formed semiconductor image sensor of Claim 38, wherein the silicide formation prevention coating extends only across the photosensing portion of each pixel.

40. (New) A partially formed semiconductor image sensor according to Claim 38, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially blue light.

41. (New) A partially formed semiconductor image sensor according to Claim 38, wherein the silicide formation prevention coating has a maximum transmission at a wavelength range of substantially 450nm.

42. (New) A partially formed semiconductor image sensor according to Claim 38, wherein the layer of silicon

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nitride is substantially 300Å thick and the layer of silicon dioxide is substantially 250Å thick.

43. (New) A partially formed semiconductor image sensor according to Claim 38, wherein the photosensing portion comprises a photo-diode.

44. (New) A partially formed semiconductor image sensor according to Claim 43, wherein the photo-diode comprises a pinned photo-diode.

45. (New) A partially formed semiconductor image sensor according to Claim 43, wherein the photo-diode comprises a partially pinned photo-diode.